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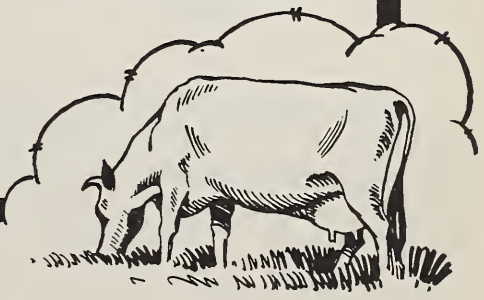
Essentials for...

EFFICIENT DAIRY FARMING

1. Develop a production record-keeping program by participating in one of the organized plans available in the area and use the information obtained as a guide to breeding better dairy cows, to feeding cows according to their producing ability, and to culling the unprofitable cows from the herd.
2. Develop a breeding program that will assure high-producing cows for replacement purposes.
3. Develop feeding and management practices that will assure efficient preservation and utilization of the feed for high milk yields.
4. Develop a feed-production program, based on grassland crops, that will provide an adequate and balanced, low-cost feed supply for the herd.
5. Develop practices that will use the total farm and herd resources efficiently to produce milk as economically as possible.
6. Develop methods and practices for producing high-quality milk and cream at all times throughout the year.



Agricultural Research Service
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MORE EFFICIENCY . . . . . .

Dairy farmers need to continually use practices that will increase the net returns from their operations. Regardless of the cost-price situation, it is the efficient dairyman who stands the best chance of high rewards for his endeavors.

Greater returns can be obtained when every effort is directed toward reducing the cost of milk production. Dairy farmers can improve their efficiency by adopting all possible cost-reducing practices and by obtaining the highest possible yields that are practically possible from their land, their labor, and their cows.

A dairy farmer uses milk cows to market a large part of the crops--pasture, hay, silage, and grain--produced from his land. Thus, milk production involves crop production and farm management as well as developing and properly feeding and caring for the herd. Milk production is most efficient when the yields and the quality of both the feed crops produced from the land and the milk produced from the herd are high and when the input costs are low. Inefficient practices and waste all along the production line increase costs and reduce output. Thus, greater efficiency must be the dairy farmer's watchword in the years ahead. Obtaining records of production of the crops and of the milk production by individual cows in the herd, and using this information as a guide to improving practices are the keys to greater efficiency.

In the following pages, the Dairy Husbandry Research Branch has outlined a number of basic essentials for insuring efficiency on the dairy farm. For information about local application of these practices dairymen are urged to consult their county agent and the State agricultural college and extension specialists. Bulletins and pamphlets relating to various aspects of dairy farming can be obtained by writing to the State agricultural college and the U. S. Department of Agriculture.

Develop a production record-keeping program by participating in one of the organized plans available in the area and use the information obtained as a guide to breeding better dairy cows, to feeding cows according to their producing ability, and to culling the unprofitable cows from the herd.

The availability of continuous records of production of each cow in the herd is the key to improving the efficiency of milk production and to increase dairy profits. Plan to join and participate in the National Cooperative Dairy Herd Improvement Program that is available in your area.

THINGS TO DO

.....If you are not now obtaining continuous records of production on the cows in your herd, start to do so as soon as possible.

.....See your county agent and join up with one of the available organized plans of record keeping in your county--the Standard DHIA Plan, the Owner-Sampler Plan, or the new Weigh-A-Day-A-Month Plan.

.....Keep the information on production up to date, keep the herd book complete. Utilize the service and advice that the supervisor and the county agent can give.

.....Use the information obtained from the record keeping to guide in more efficient management.

.....Feed cows according to production.

.....Cull low-producing, unprofitable cows from the herd.

.....Select the highest producing cows from which to raise herd replacements.

.....If on Standard Plan DHIA see that the supervisor reports lactation records on DHIA-718 cards to the State Dairy Extension Office.

Develop a breeding program that will assure high-producing cows for replacement purposes.

The dairy cow affords the farmer an opportunity to transform the nonedible crops he grows into valuable human food, from which he obtains the major part of his income. To convert such crops into milk and butterfat efficiently, cows must have inherent qualities for utilizing feeds efficiently and for producing large quantities of milk and butterfat per unit of feed consumed. Such cows can be developed by following a sound breeding program.

THINGS TO DO

.....Develop a breeding program based on sound principles of selection and mating.

.....Breed all cows to the best proved sire available.

.....If no proved sire is available, use a young bull originating from an ancestry of proved sires.

.....A good way to obtain the services of outstanding sires is from an artificial-breeding association.

.....Use production records to measure the transmitting ability of the bulls and to select females for breeding animals and herd replacements.

.....Breed for and develop cows that will be large for the breed and that will be large consumers of pasturage and other roughage.

.....Breed for and develop cows that will be adapted to the climatic and other conditions of the region.

.....Breed for longevity, high production, efficient reproduction, and resistance to disease.

.....Raise females from the best producing families for use as herd replacements.

Develop feeding and management practices that will assure efficient preservation and utilization of the feed for high milk yields.

Roughage feeds (hay, silage, and pasturage) should be used to the utmost in feeding all dairy animals. The better the quality of the roughage, the more the animals will eat. It is essential not only to grow an abundance of roughage crops, but also to harvest or graze them while they are in their most nutritious stage and to store the harvested crops in a way that will save a high percentage of the nutrients grown.

THINGS TO DO

.....Feed all milking cows an abundance of high-quality roughage at all times (pasture, hay, and silage).

.....Feed grain along with roughage to the extent it pays to do so, the amount depending on the price ratio of grain to milk.

.....Make every effort to provide the protein needed in the dairy ration from home-grown feeds (pasturage, harvested forage, and farm grains).

.....When it is necessary to purchase grain and other concentrates, select them on the basis of cost per pound of digestible nutrients.

.....To produce high-quality roughage, cut the crop at an early stage of maturity and store as soon as possible to reduce losses of protein and other nutrients.

.....In areas where it is difficult to make good-quality field-cured hay, make the crop into silage or barn-cured hay.

.....To provide abundant grazing, supplement permanent pastures with annual grazing crops and crop-rotation pastures.

.....Graze pastures in rotation, either conventional weekly or daily, so cows will always be feeding on the young growing grass. Use the green feeding (zero pasture) method if suited to the farm.

.....When pasturage is too short or too mature to maintain milk flow, supplement the pastures by feeding hay, silage, or grain.

.....When there is more pasturage than the herd will eat, especially during the early stages of growth, harvest a part for hay or silage.

.....Maintain yearling heifers on good pasture or harvested forage; and raise heifer calves by feeding plenty of high-quality hay and skim milk, or calf starters, and limited amounts of grain.

.....Provide plenty of water, salt, and shade to animals on pasture.

Develop a feed-production program, based on grassland crops, that will provide an adequate and balanced feed supply for the herd.

Home-grown feeds, especially pasturage and other forages, are the cheapest and best feeds for dairy cattle. Such feeds can provide the essential nutrients for liberal milk production. Plan for ample long-season grazing, abundant supplies of high-quality forage and enough grains to supplement the roughages and balance the ration.

THINGS TO DO

.....Determine land capabilities, follow good land-use practices, and grow crops suited to the soil and climatic conditions.

.....Use suitable crop rotations to provide the pasturage, harvested forages, and grain needed.

.....Grow high-quality legumes or grass-legume mixtures for grazing and for harvesting as hay or silage.

.....Grow plenty of corn or sorghum for silage.

.....Grow enough grain, especially corn, to provide the major part of the concentrate ration.

.....Use improved and adapted varieties of the crops grown.

.....Use lime, manure, and chemical fertilizers according to the needs of the soil and the various crops.

.....Renovate and re-seed permanent pastures to increase yields.

.....Use supplemental irrigation on pastures, where feasible, to increase yields.

.....Control insects on crops by spraying with suitable insecticides.

Develop practices that will use the total farm and herd resources efficiently to produce all the salable products possible.

Efficient management of the farm and the herd, and efficient use of available labor, machinery, and equipment, will conserve the farm resources and keep production costs at a minimum. Ordinarily it will pay to produce all the salable milk possible, but there may be times when other farm and livestock products, such as veal and steer calves, can be produced and sold to good advantage. Management of the dairy farm should be flexible enough to permit a temporary shift to cash crops or other livestock without disrupting the whole farming scheme, and yet permit a return to full-scale dairying when desired.

THINGS TO DO

.....Keep adequate farm and herd records as guides in meeting feed requirements, in feeding economically, and in selecting breeding animals and herd replacements.

.....Plan farm work to obtain maximum output per man-hour of labor and per unit of equipment.

.....Keep buildings, machinery, and equipment in good repair.

.....Self-feed hay and silage wherever possible to save labor.

.....Provide suitable housing, where cows can be kept comfortable, clean and healthy; use plenty of bedding in winter.

.....Adopt rapid-milking procedures to save labor and increase yield.

.....Keep mastitis and other diseases under control, through sanitation and other good management practices; use strip-cup daily to identify cows affected with mastitis.

.....Keep calfhood diseases, such as scours, at a minimum by following sanitary practices in feeding and management.

.....Regulate breeding of cows so they will calve regularly at 12-month intervals.

.....Plan to give each milking cow a rest period of 4 to 6 weeks before she calves again. This can be done and a 10-month milking period can still be obtained.

.....Conserve all manure produced--both liquid and solid--and use it efficiently on crop and pasture land.

.....Take adequate measures to control flies and insect pests.

Develop methods and practices for producing high-quality milk and cream at all times throughout the year.

Milk is a perishable product. To bring the greatest returns, it must reach the factory in a clean, sweet, wholesome condition and be free of objectionable odors and flavors. A satisfactory income from dairying depends to a large extent on the dairyman's ability to produce and market high-quality milk or cream regularly throughout the year.

THINGS TO DO

.....See that all cows are free from disease--have them examined and tested periodically by a competent veterinarian.

.....Produce milk under clean, sanitary conditions--preferably in a separate milking barn.

.....Have the cows clean at milking time; keep long hairs clipped off the belly, flanks, and udder; wash and wipe udder before milking.

.....Use a strip-cup daily to check milk for abnormal appearance.

.....Milk with clean, dry hands into clean small-top pails or use sanitized milking machines.

.....Cool the milk immediately to a temperature of 50° F. or below and keep it cold and covered until marketed.

.....Use bulk storage for cooling and holding milk where feasible.

.....Provide plenty of water for washing and cleaning all dairy utensils and other equipment, including barn floors and gutters.

.....Use effective methods, such as steam or chemical solutions, in treating all utensils to kill bacteria.

.....Always feed strong-odored feeds, such as silage, after milking and after the milk has been taken from the barn.

.....Keep pastures free of weeds that are poisonous or that cause objectionable flavors in milk, or keep cows off such pastures.

.....House the cows in well-ventilated barns; remove manure promptly, and use plenty of bedding at all times.

.....In spraying cows and barns with insecticides, especially with the newer insecticides, follow recommendations of your State agricultural college.